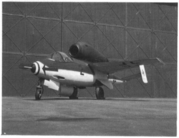
MONOGRAM

Close-Up 11

VOLKSJÄGER


He 162 A-2, W.Nr. 120227 at RAF St. Athan.

Given the hour and climate in which it was created, there can be no doubt that the small Heinkel 162 was a brilliant aeronautical engineering achievement. What is remarkable is that it almost succeeded in meeting its combat mission. Using a new powerplant so as not to interfere with Me 262 production, the He 162 was constructed mainly of non-strategic materials and required relatively few man-hours to assemble. However, insofar as its flight characteristics, the plane failed to live up to expectations. It required experienced pilots…something the *Luftwaffe* was unable to provide in sufficient numbers by late 1944. Nevertheless, the officers and men of the *Luftwaffe* who were charged with bringing the He 162 into service did their job well even though most knew the new jet would not make much difference. But, in spite of the fact that the powerplant of the He 162 was as advanced as any then in existence, there was no denying that the airframe was lacking in several respects.

Officially known as *Spatz* (Sparrow), it has subsequently been more popularly known to English-speaking enthusiasts as the *Volksjäger* (People's fighter). However, there is a dark side to this appellation linked to the fact that forced labor was employed in the aircraft coming from the Mittelwerke firm at the infamous Nordhausen complex. To characterize conditions at this underground site as exceptionally harsh is to grossly understate matters.

Perhaps the use of materials other than wood, coupled with a more intensive test program, not to mention assembly by willing hands, would have yielded a better product. However, this speculation is a moot point for, by the war's end, there was little Allied interest in the design apart from the usual attempt to learn of any hidden secrets. The significance of the *Volksjäger* must, therefore, rest in its claim as the first single-engined jet fighter to gain operational status during WW II.

Of the 31 *Volksjäger* fighters captured at Leck airfield, eleven were brought to Britain, seven were transported to France, four shipped to the USA and an undisclosed number were acquired by the Soviets. The rest were destroyed. Today the known survivors number seven: two each in England, Canada and the USA with one in France.

The authors and publisher are deeply indebted to Johann Edelhofer for his assistance in creating the most accurate scale drawings of the He 162's elusive shape yet published. Special thanks must also be extended to Wing Commander Paul Brindley and RAF St. Athan in South Wales, to Paul Bader, Phil Butler, Jeffrey L. Ethell, Ralph Leonardo, Richard P. Lutz Jr., Peter Petrick and General (ret) Harold E. Watson, USAF.

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Serial numbers (Werk Nummern) allocated to the He 162 A-series fell within one of five blocks. Each assembly factory was issued a prefix of three digits which allowed for easy tracking. All of the early prototypes up to the tenth machine were built by Heinkel South at Vienna-Schwecht. Prototypes beginning with the eleventh machine were assembled at Heinkel's Hinterbrühl facility. Production aircraft of the A-1 series appear to have been produced only by Junkers at Bernburg and Mittelwerke at Nordhausen. Heinkel North at Rostock-Marienehe produced aircraft of the A-2 series.

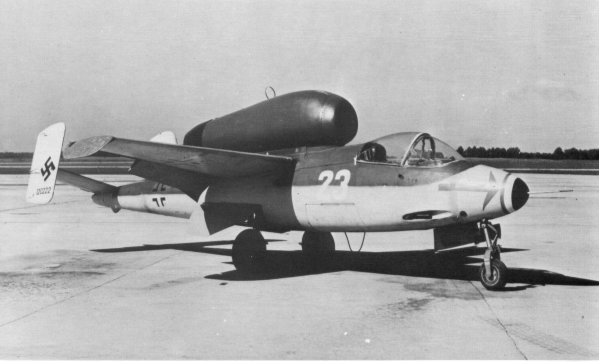
Approximately 120 aircraft were produced at Rostock while about 30 prototypes and 40 production aircraft were completed at Vienna. Junkers produced about 30 with total Mittelwerke output in excess of 18 aircraft. Finally, about 800 additional aircraft were under construction throughout Germany at the end of the war.

Serial numbers were displayed across the fin either at the top or base of the unit in black on light colored surfaces or white on camouflaged surfaces as shown by the photographs in this publication.

WERK NUMMERN FOR THE HEINKEL 162 A-1 and A-2

Heinkel North	Heinkel South	Heinkel Hinterbrühl	Junkers	Mittelwerke
120001 - 120100 120221 - 120240	200001 - 200010	220001 - 220086	300001 - 300027	310001 - 310018

Higher numbers were undoubtedly set but documented evidence is lacking.



Above: *He 162 A-2, W.Nr. 120230 (but with the tail from W.Nr. 120222), white 23, at Wright Field in 1945. It is believed this aircraft was flown by Oberst Herbert Ihlefeld, Kommodore of JG 1.*

VOLKSJÄGER

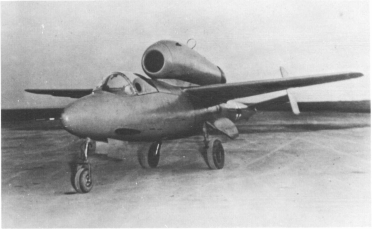
By J. Richard Smith & Eddie J. Creek

> "From the beginning I had strongly opposed the *Volksjäger* project. In contrast to the creators of this idea my objections were based on factual reasons such as insufficient performance, range, armament, poor visibility, and dubious airworthiness. Furthermore I was convinced that this aircraft could not be brought into worthwhile operation before the end of the war. The stupendous expenditure of labor and material was bound to be at the expense of the Me 262. To my mind all forces ought to be concentrated on this well-tested jet fighter in order to make the best of the possibilities remaining to us. If we scattered our strength once more in this last phase of the war, then all our efforts would be in vain."
>
> *Generalleutnant* Adolf Galland

On September 10, 1944, the RLM (German Air Ministry) issued a specification for an emergency lightweight fighter *(Volksjäger)* to be powered by a BMW 003 turbojet. The specification called for an airplane with a maximum speed of 457 mph (750 km/h) at sea level, a takeoff distance of under 1,604 ft (500 m) and an endurance of at least 30 minutes. The fighter was to have an armament of two 30 mm MK 108 cannon with 80–100 rounds or two 20 mm MG 151/20 guns with 200-250 rounds and carry radio equipment for bad weather operations. One further stipulation was that the design should be ready for examination in three to five days!

It has never become completely clear who conceived the idea of the *Volksjäger* or People's Fighter, although it was probably *General-Oberst* Keller, head of the National Socialist Flying Corps (NSFK) Certainly, Karl-Otto Saur, Speer's deputy and head of aircraft production was in favor of the project, and sanctioned the issuing of the *Volksjäger* specification quoted above. After the war, Saur himself attributed the idea to *Generaldirektor* Frydag, head of the main commission for airframes, but Frydag denied involvement, emphasizing that he was completely against the idea.

However, it is known that at least eight German aircraft companies were asked to tender designs. These were Arado, Blohm und Voss, Focke-Wulf, Heinkel, Junkers, Messerschmitt, Fieseler and Siebel. No details of the proposals submitted by the last two companies have survived, and Messerschmitt, which was already producing the Me 262 jet fighter, declined to enter the competition. In the words of Professor Messerschmitt: "The Me 262 must form the backbone of *Luftwaffe* air defence in the deciding battles



Left: *He 162 M1, W.Nr. 200001, VI+IA, pictured after completion at Heinkel's Vienna-Schwechat factory early in December 1944. First flown by Flugkapitän Gotthold Peter on December 6, 1944 without incident.*

of the spring of 1945. The '262 is a reality, the *Volksjäger* only a hope. I cannot understand the need to develop a further aircraft when we already possess a superior machine. For about a year the Me 262 has been developed and parts are still required. Workmanship is lacking which endangers the performance of the machine and yet while we are 'screaming' for materials and parts, someone wants to develop a new aircraft."

Because of the urgency of the specification, the five remaining manufacturers had of necessity to rework or scale down one or more of their previous designs. Thus the following six projects eventually emerged.

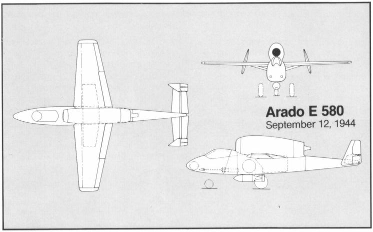
ARADO Arado's proposal was developed from an earlier fighter project of 1943. This was for a large airplane powered by an unspecified turbojet developing 3,307 lbs (1,500 kg) thrust mounted above the fuselage. The wings, having an area of 205 sq ft (19 m2), were slightly swept back while twin endplate fins and rudders were fitted.

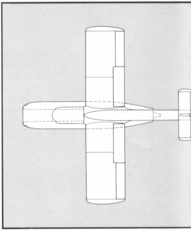
Taking this design as a basis, Arado developed a much smaller version to meet the *Volksjäger* specification. An unusual feature of the project, designated E 580, was that the intake for the BMW 003 engine was partly masked by the cockpit canopy. The airplane was to have a retractable tricycle undercarriage and carry an armament of either one or two 30 mm MK 108 cannon but otherwise was similar in layout to the previous proposal.

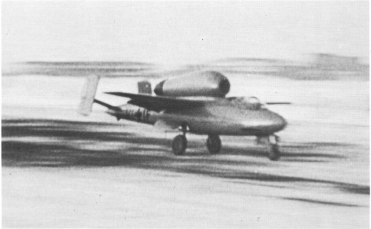
BLOHM UND VOSS Blohm and Voss's *Volksjäger* proposal, designed by Dr. Richard Vogt, was the P 211. This was also based on an earlier proposal with sweptback wings. It had a pod and boom fuselage with the BMW 003 engine exhausting below the tail, and a retractable tricycle undercarriage. The fuselage was unusual in being built around a special bent tubular former which included both the intake duct and the tail boom. The aircraft was to make use of 58% steel, 23% wood and only 13% Duralumin which was in such short supply at this stage in the war.

FOCKE-WULF Focke-Wulf produced two *Volksjäger* projects, both based on previous designs. The first of these was the *Volksflitzer*, a scaled-down version of the company's *Flitzer* (Madcap) proposal with the HeS 011 engine replaced by a BMW 003 and wing area reduced from 183 sq ft (17 m²) to 150 sq ft (14 m²). The *Flitzer* was a mid-wing monoplane with twin booms supporting the horizontal stabilizer placed high to avoid the effects of the jet efflux.

Focke-Wulf's second proposal, the *Volksflugzeug*, owed something to the later Ta 183 project, but originally was considered with wings and tail of straight rather than sweptback planform.







Right: *Still from a movie film shows the He 162 M6, W.Nr. 200006, VI+IF, about to lift off on its maiden flight on January 23, 1945. This prototype was lost on February 4, 1945 due to a jammed rudder.*

HEINKEL The Heinkel project was developed from the P 1073 which had, in turn, been designed as a replacement for the Me 262. This was a neat mid-wing monoplane with a sweptback wing and vee tail. In order to leave the wing free of the encumbrance of engines, Heinkel's chief designer, Siegfried Günther, had decided to mount one of these above the fuselage and one below. This resulted in a rather odd looking airplane with a complicated undercarriage. In order to meet the requirements of the *Volksjäger* specification, Günther scaled down the P 1073, incorporating a new wing with a straight planform and conventional tail with twin endplate fins and rudders. The turbojet beneath the fuselage was removed and the upper engine replaced by the smaller and less powerful BMW 003.

JUNKERS The Junkers proposal, designed by Professor Heinrich Hertel, was similar in appearance to Heinkel's modified P 1073 but had the turbojet mounted beneath the fuselage. No information has been discovered on the design's project designation, although it could have been EF 123 or EF 124.

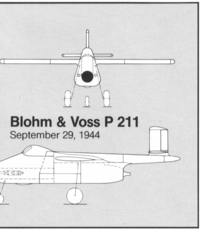
Five days after the issue of the *Volksjäger* specification, on September 15, all six projects were examined by the RLM. The Focke-Wulf proposals quickly were rejected because it was felt that they were not developed sufficiently. The Junkers project met a similar fate because it was realized that its engine, mounted below the fuselage, inevitably would be destroyed in the event of a belly landing, and the Arado E 580 was condemned because of inadequate performance. This left the Heinkel and Blohm und Voss proposals.

The consensus of opinion was that the P 211 was superior to the P 1073 because the positioning of the engine did not obstruct the pilot's view, it used less Duralumin in its construction and could be easily disassembled for transportation. Despite this, the two companies were asked to submit revised proposals, and these were studied by *Generalstabsing* Lucht on September 19. This led to the award of the contract to the Heinkel design four days later.

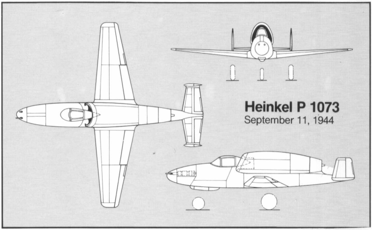
The main reasons were that it offered the best chance of meeting the delivery dates demanded and would need less manhours for its construction. In addition it used the undercarriage legs of the Bf 109 which would obviate the need for new forgings, tools and wheels. Some disquiet was also felt about the engine installation of the P 211 because of the long intake duct which it was felt could result in considerable power loss.

THE HEINKEL He 162

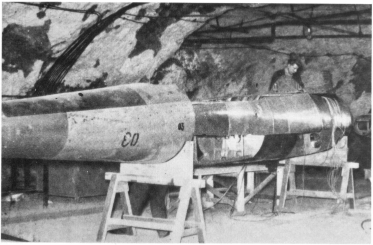
In an unparalled feat, the Heinkel design team under Siegfried Günther and Karl



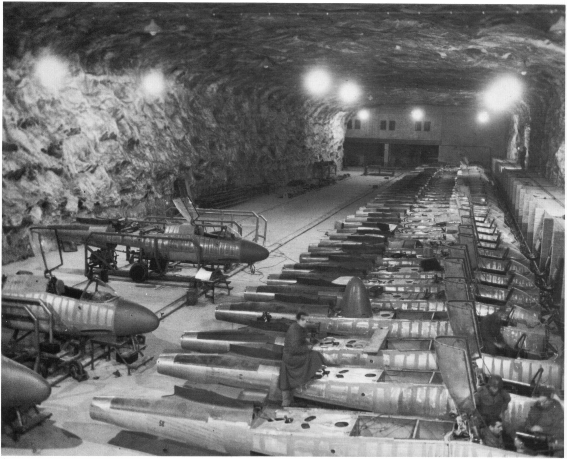
Blohm & Voss P 211
September 29, 1944



Heinkel P 1073
September 11, 1944



Left: *He 162 fuselages being built in the underground factory at Hinterbrühl near Vienna in December 1944. It is possible that the fuselage in the foreground was that of the M20 (W.Nr. 220003) which made its first flight on February 10, 1945.* Below: *Located 1,000 ft (305 m) below ground, this converted salt mine at Eger near Salzburg was capable of a monthly output of 45 aircraft. This photo was taken in April 1945 shortly after capture by US troops. At least 40 fuselages are shown in various stages of completion.* Opposite right: *As a crewman carefully lowers the canopy, A Volksjäger pilot prepares to complete his preflight before take off.*



Schwärzler managed to complete detailed drawings for the airplane by November 5, 1944. For prestige reasons, Heinkel wished to call it the He 500, but eventually the RLM allocated the designation He 162 and the name *"Spatz"* (the Austrian dialect word for Sparrow).[1] Scale models of the design were produced almost simultaneously with the drawings and other documents, many of which were headed with the lengend *"Blitz!"* (to be processed with lightning speed).

By November 17 parts for the aircraft were beginning to arrive at Vienna from the various sub-contractors. The weekly report issued by the company stated:

1) The He 162 V1 (first prototype) is on the stocks and nearing completion.

2) The wings should arrive on Friday, 19, and the engine is being delivered on Sunday.

3) Practically all the other parts have arrived although they should have been delivered one or two days earlier.

4) The V2 is also on the stocks.

5) A 1:1.5 wind tunnel model has been completed and is being delivered to Brunswick.

6) The cockpit for the prototype model has been delayed due to problems with sub contractors.

On September 23, 1944, the *Jägerstab's* production Program 226 was revised to include the He 162. It was proposed that 1,000 aircraft should be produced by the following April. However, on December 15 this plan was superseded by Program 227, designed to take account of the heavy bombing which had so badly dis-

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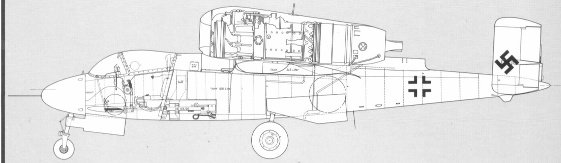
[1] During 1944, the RLM sought to use up low numbers within the GL/C list which had either not been assigned or involved designs which were discarded. The Messerschmitt Bf 162 was not sanctioned for continued development thereby allowing the RLM to reassign aircraft number 8-162 to Heinkel.

HEINKEL 162 PROTOTYPES

Aircraft	W.Nr.	Code	Model	Remarks
M1	200001	VI+IA		Flew December 6, 1944 but crashed on December 10. Armed with 2 x MK 108 cannon.
M2	200002	VI+IB		Flew December 22, 1944 and used to test 2 x MK 108 cannon.
M3	200003	VI+IC	A-1	Flew January 16, 1945 but crashed in February. Fitted with downward canted wing tips for stability tests.
M4	200004	VI+ID	A-1	Flew January 16, 1945 similar to M3 and used for general flight testing. 2 x MK 108s.
M5	200005	VI+IE		Vibration tests from December 28, 1944. Never flew. No weapons fitted.
M6	200006	VI+IF	A-1	Flew January 23, 1945 but crashed on February 4 due to jammed rudder. 2 x MK 108s.
M7	200007	VI+IG	A-2	Completed January 24, 1945 with 2 x MG 151s. Tested breaking parachute. At Heidfeld on March 11, 1945.
M8	200008	VI+IH	A-2	Flew February 1945 but crash landed on March 12 armed with 2 x MG 151s.
M9	200009	VI+II		General flight test aircraft.
M10	200010	VI+IJ		General flight test aircraft.
M11	220017	WA+??	A-2	Fitted with a Jumo 004B. At Theresienfeld (Rostock) on March 11, 1945. Destroyed in bombing before it could fly.
M12	220018	WA+??	A-2	Fitted with a Jumo 004B. At Theresienfeld (Rostock) on March 11, 1945. Destroyed in bombing before it could fly.
M13				Never used, possibly for superstitious reasons.
M14				To be fitted with a HeS 011 engine but not built. Werk Nummer not allocated.
M15				To be fitted with a HeS 011 engine but not built. Werk Nummer not allocated.
M16	220019		A-2	Two-seat trainer. Uncertain if it was completed.
M17	220020		A-2	Two-seat trainer. Uncertain if it was completed.
M18	220001	VI+IK	A-2	Flew January 24, 1945. First Hinterbrühl aircraft used for landing and radio tests.
M19	220002	VI+IL	A-2	Flew January 28, 1945. Destroyed March 14 due to pilot error. Intended to test a 20° V-tail, comparison flights to be flown with the M3.
M20	220003	VI+IM	A-2	Flew February 10, 1945. Rudder tests. Found destroyed at München-Riem.
M21	220004	VI+IN	A-2	Weapons tests with MG 151s. Suffered 20% damage on March 7, 1945.
M22	220005	VI+IO	A-2	Flew February 22, 1945. To test redesigned wing root fillets.
M23	220006	VI+IP	A-2	General handling tests with redesigned wing root fillets. Destroyed at München-Riem.
M24	220007	VI+IQ	A-2	General handling tests. At Heidfeld on March 11, 1945.
M25	220008	VI+IR	A-2	Flew February 17, 1945. 60% destroyed on March 2. Lengthened fuselage. M41 to replace it.
M26	220009	VI+IS	A-2	Similar to M25 with a lengthened fuselage.
M27	220010	VI+IT	A-2	Reserve aircraft. At Heidfeld on March 11, 1945.
M28	220011	VI+IU	A-2	Reserve aircraft.
M29	220012	VI+IV	A-2	Flew February 19, 1945. Reserve aircraft used for weapons tests. Found at Heidfeld on ?
M30	220013	VI+IW	A-2	Flew February 24, 1945. Adler gun sight test aircraft (EZ 42 gyroscopic gunsight).
M31	220014	VI+IX	A-2	Reserve aircraft destroyed in an Allied attack on Vienna February 13, 1945.
M32	220015	VI+IY		?
M33	220016	VI+IZ		?
M34	220021			?
M35	220023			?
M36	220024			?
M37	220025			At Theresienfeld (Rostock) on March 11, 1945.
M38	220026			?
M39	220027			?
M40	220028			?
M41	220029			Replacement aircraft for M25 with lengthened fuselage.
M42	220030			?

Note: The first twenty aircraft produced at Hinterbrühl were also preseries aircraft (A-01—W.Nr. 220001 to A-020 (W.Nr. 220020). The werk nummer for the M34 could have been 220022 but this is unverifiable.



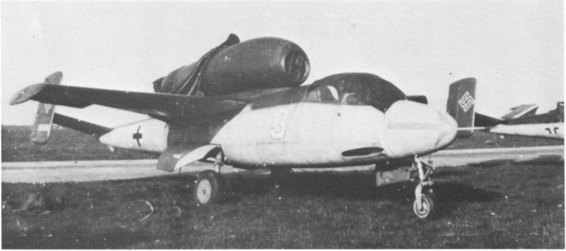
He 162 A-2

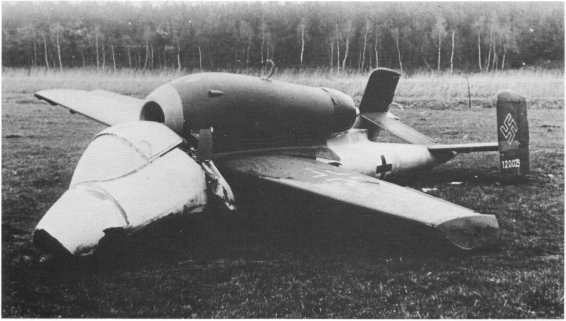
rupted German aircraft production during the previous months. The main feature of this program was the reduction or complete elimination of a number of bomber and night fighter types plus the Me 163 rocket fighter, with emphasis switching to the Me 262 and He 162.

Although the early He 162 prototypes were to be built at Vienna, four other factories were scheduled to undertake production. These were Heinkel North at Rostock, a new underground plant established in a former chalk mine at Hinterbrühl near Vienna known by the code name *"Languste,"* the Junkers factory at Bernburg and the huge Mittelwerke GmbH complex at Nordhausen. Many of the parts for the airplane were to be built by small woodworking companies organized into three groups. These were *Organization Wätcher* at Neustadt/Orla, *Reparaturwerk Erfurt* at Erfurt and *Organization Mai* at Stuttgart. Most of these firms, many of which previously had manufactured only furniture, lacked the technical skill and know-how to construct aircraft components to the necessary tolerances. A complete lack of quality control often resulted in whole shipments of parts being rejected either because they were sub-standard or they simply did not fit!

Despite all these problems the prototype, the He 162 V1, made its first flight on December 6, 1944, piloted by Heinkel's chief test pilot, *Flugkapitän* Gotthold Peter. Peter, who was born in Dresden in June 1912, had begun his flying career on gliders in 1930. He helped develop the *Akaflieg Berlin* B5 and B6 sailplanes, and achieved an altitude of 22,966 ft (7000 m) and two distance records before joining the *Luftwaffe*. After a period with Arado he joined Heinkel on August 12, 1940, making a number of important tests with the He 177 and the first flight in the He 219 night fighter.

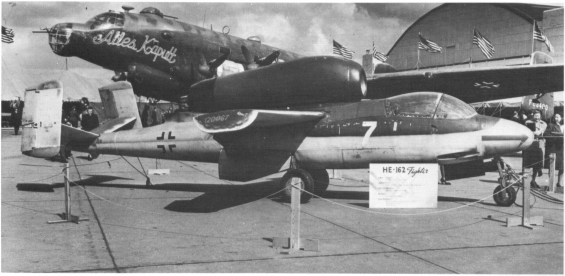
Below: *He 162 A-2, W.Nr. 120028, white 3, of I./JG 1 found at Leck near the Danish border by British troops early in May 1945. Almost all the He 162s of JG 1 carried red arrows on their noses.*

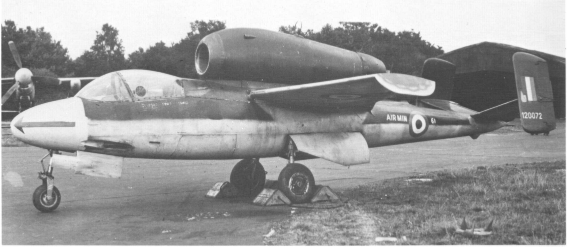




Above: *He 162 A-2, W.Nr. 120029, made a wheels-up landing during a training flight. Some controversy surrounds the true color of the engine cowl's leading section. Since this part was technically part of the powerplant it was frequently delivered and installed within the airframe without paint. There is no hard evidence to suggest it was ever painted in unit colors. Instead, they were either painted in one of the two prescribed camouflage colors or left in natural Duralumin.* Below: *He 162 A-2, W.Nr. 120067, yellow 7, shown at Wright Field late in 1945 in company with other former Luftwaffe aircraft.*

After completing the first 20 minute flight with the He 162 V1, Peter reported that the engine ran "beautifully" but that there was a tendency for the aircraft to turn to port. Defective glue bonding resulted in an undercarriage door breaking away, but otherwise there were no problems. Four days later the prototype was demonstrated before a large gathering of RLM, *Luftwaffe* and Nazi Party officials at Vienna. All went well until Peter attempted an unscheduled high speed run over the airfield. At an estimated speed of 457 mph (735 km/h) the leading edge of the starboard wing broke away causing the prototype to go into a roll ripping away the





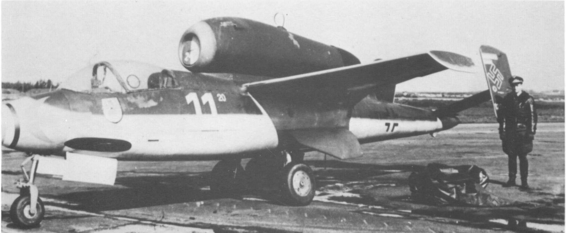
aileron. Within seconds the airplane had crashed beyond the airfield boundary killing the pilot.

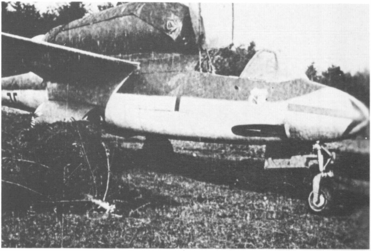
Investigation of the accident revealed that it was caused by instability around the transverse axis which, combined with defective glue bonding, resulted in the tearing away of the leading edge. Later a series of tests was made during which an He 162 airframe was towed through a Hamburg lake, an underwater camera recording that damage that happened to the wing at a comparable point.

Following the loss of the V1, the man in charge of the *Volksjäger* project, *General* Philipp Kessler, ordered that the wings be strengthened. This was to be completed by December 24 and until then a speed limitation of 311 mph (500 km/h) was to be imposed. Investigation of the wings under construction showed that the sealing of the fuel tanks was far from adequate because the recommended sealing compound could no longer be obtained.

On December 22, the second prototype, the He 162 V2, made its first flight with Heinkel's Director Carl Francke at the controls. There was some discussion between him and his good friend Paul

Above: *The ill-fated He 162 A-2, W.Nr. 120072, white 3, on display at Farnborough during the fall of 1945. On November 9, 1945, the pilot, Flt. Lt. Robert A. Marks, was tragically killed while attempting a high speed roll at low altitude. Assigned Air Ministry number 61, the aircraft had logged 50 minutes of flight time during four flights prior to its loss.* Below: *Oblt. Emil Demuth, Staffelkapitän of 3./JG 1, poses next to his He 162 A-2, W.Nr. 120074, yellow 11, at Leck in May 1945. The small digits, 20, next to the yellow 11 denote a commander's aircraft. The red-white-black nose could possibly indicate an award such as the German Cross in Gold. The sixteen victory bars on the fin do not indicate aerial victories with the He 162 but, instead, represent Oblt. Demuth's tally with other aircraft types.*





Right: *Currently on display at Ed Maloney's "Planes of Fame" museum at Chino airport, California is He 162 A-2, W.Nr. 120077, red 1, formerly of 2./JG 1.*

Bader as to who should make the first flight. Bader remembers that they finally decided to flip a coin for the now rather dubious honor and Francke won (or perhaps lost!). Fortunately the flight went well, and Bader took the prototype up later the same day. Even so, further flight restrictions were placed on the aircraft, it being ordered that the ailerons and rudders only be moved to half deflection.

Because of the unpredictability of the design at this stage, Professor Heinkel proposed insuring all test pilots for 80,000 RM (then about $19,000). The pilots mentioned included Bader, *Dipl.Ing.* (Diploma Engineer) Shuck, *Oblt. (Oberleutnant)* Weydemeyer and *Lt. (Leutnant)* Kemnitz.

At the end of December, in common with an industry-wide trend, the old *Versuchs* (prototype) designation was replaced by a *Muster* (model) number.[2] Thus the He 162 V2 became the M2 and the V6 the M6. Shortly afterward, the expert aerodynamicist, Dr. Alexander Lippisch, offered help in redesigning the He 162 to improve its lateral stability. He proposed fitting small "dog ears" (to become known as Lippisch *Ohren*/Lippisch ears) to the wing tips of the airplane.

Early in the new year the He 162 M3 and M4 were completed with the new strengthened wings specified by Kessler and the downward hanging tips proposed by Lippish. Both prototypes made their first flights on January 16, 1945, with two 30 mm MK 108 cannon. Shortly afterward the latter successfully attained a speed of 435 mph (700 km/h) with *Flugbaumeister* Full at the controls. About the same time *Stabsing*. Paul Bader was appointed *Typenbegleiter* (Development coordinator) for the type.

By January 22 the M3 had logged 13 flights totalling 80 minutes and the M4 ten totalling 174 minutes. Both aircraft were damaged slightly on this day, the M3 collapsing onto its port wing on landing and the M4 hitting a mound of snow. Next day the fifth aircraft to fly, the He 162 M6, made its first flight. (The M5 was used for general stress tests and never flew.) The M6 was probably the last prototype to be fitted with the MK 108 cannon because of bomb damage to the factory.

Despite previously published information, only two production designations have been confirmed. These were the **He 162 A-1** fitted with two 30 mm MK 108 cannon with 50 rounds per gun and the **He 162 A-2** with two 20 mm MG 151 with 120 rounds. Special designations such as the He 162 A-9, B-2 and D-1 have been attributed to the various projected versions described later, but no evidence for these has been discovered in Heinkel documents of the period.

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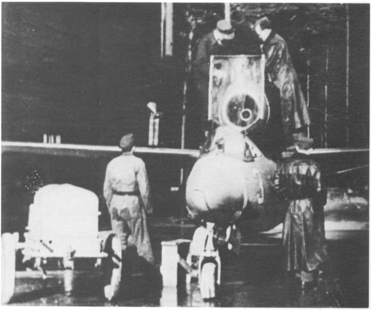
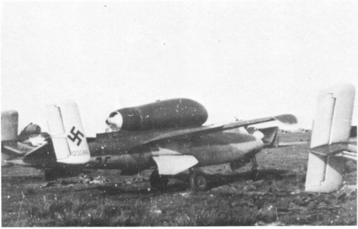
[2] The use of "M" numbers to designate prototypes had already been common practice in Austria.



Right: *German ground crew at work on an He 162 A-2, white 3, which may have been one of those operated by the experimental test unit, Erprobungskommando 162.*



Left: *Photographed at Leck in May 1945, this He 162 A-2, W.Nr. 120086, was one of the 31 He 162s captured by British forces at this airfield. This particular machine was shipped to Canada in 1946 and is currently in storage at Rockcliffe, Ontario.*

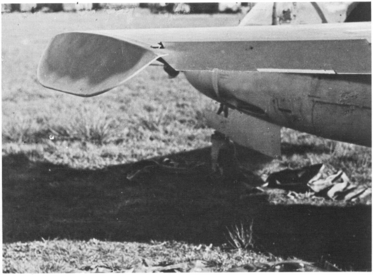
Previously, on January 14, the first Rostock built aircraft (W.Nr. 120001) had been delivered, followed by the first Hinterbrühl aircraft, the He 162 A-01 or M18 (W.Nr.220001) shortly afterward. On reaching the Heidfeld flight test center first checks on the M18 revealed over 50 deviations from the work drawings and these had to be corrected before the aircraft could make its first flight on January 24. It was followed, four days later, by the M19 which was intended to test the stability of the ailerons at high altitude. This prototype was also to be tested with a 20 degree vee tail, but it is doubtful whether this was ever fitted. Meanwhile the seventh Vienna-built aircraft, the He 162 M7, made its first flight. This was fitted with a pair of 20 mm MG 151/20 cannon and a braking parachute.

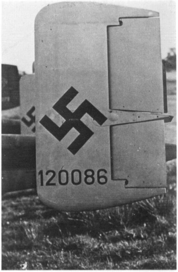
A second fatal accident occurred on February 4 when *Oblt.* George Weydemeyer was killed when the rudder of the He 162 M6 seized. Weydemeyer was another very experienced pilot who had learned to fly with the DVS in 1929. After serving with the *Luftwaffe* for a short period he joined Heinkel in 1942, testing the He 177, He 219 and He 280. By this time the He 162 had completed a total of 83 flights with a total flying time of 16 hours 33 minutes.

On February 12 *Flugbaumeister* Full reached a speed of 497 mph (800 km/h), but the top speed of the M19 was found to be only 298 mph (480 km/h) because of poor stability and generally bad workmanship. Lippisch again offered to help in redesigning the aircraft. Several modifications were introduced including an enlarged tail (flown on the M3) and a longer fuselage (to be tested by the M25). Yet another fatal accident took place on February 25 when *Flugbaumeister* Full was killed flying the M3. An eye witness reported that the pilot tried to bail out at about 700 ft (213 m) but his parachute was on fire. The cause of the crash was attributed to instability around the lateral axis.

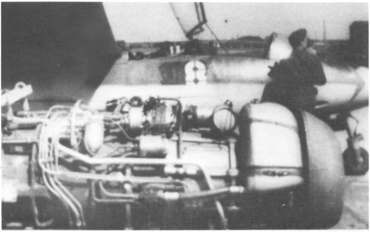
At the end of the month the He 162 M22 and M23 made their first flights but one had to make an emergency landing when

Below left: *Close-up of the so-called Lippisch Ohren (Lippisch ears) anhedral wingtip fitted to W.Nr. 120086. These tips markedly improved the aircraft's lateral stability.* Below: *Close-up of the port fin and rudder assembly. This unit was made of wood with beech plywood covering. Some of the aircraft found at Leck were fitted with vertical tail assemblies camouflaged in one of the two prescribed uppersurface colors.*





Right: *In the foreground is a BMW 003 E without its cowl while in the background is an He 162 A-2, white or yellow 8. It would appear this aircraft at one time carried a two digit number judging from the darker color applied next to the stencil 8.* Below: *Flying shots of the He 162 are rare. This photograph shows a JG 1 aircraft on final approach to Leck with full flaps and gear down.*



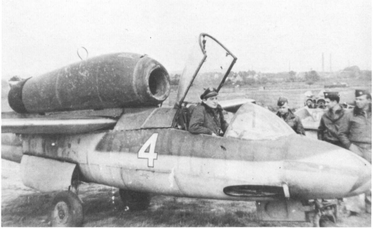
the turbojet cut, although instruments showed that there was still plenty of fuel in the tanks. Investigation showed that negative G-forces (in violent turns or during acceleration) forced fuel to the top of the tanks and away from the pumps. This caused air locks and prevented the engine from being restarted. On March 2 the M25 was destroyed due to a similar problem, but this time the pilot, Gerd Pawolka, parachuted to safety. The fuel starvation problem was never satisfactorily solved before the end of the war.

By the beginning of 1945 Germany had lost France and Belgium to the Western Allies, and the Russians had advanced deep into Poland and Hungary. In addition, difficulties caused by Allied bombing, the breakdown of the transportation system, and the transfer of many key workers to the armed forces seriously disrupted production Program 227. Consequently, on March 1, 1945, Program 228 was drawn up making very substantial cuts in virtually all the aircraft types still being built. This revised program only lasted about two weeks when, following the capture of Cologne and Bonn in the west and Breslau in the east, it was again revised. The Bf 109 and Fw 190 were to be phased out by the middle of the year and emphasis was placed on the Me 262, He 162 and Ta 152. Total fighter production for the 13 months, March 1945-46, was reduced from 64,742 under Program 227 to 24,045 under the revised Program 228.

Yet another constraint was placed on the production of the He 162 by the order that the BMW 003 engine should be converted to the more readily available J2 fuel. However, on February 25, 1945, the first Junkers-built aircraft (W.Nr.300001) flew. By March 11 the company had completed 70 fuselages. Two days earlier *Fw. (Feldwebel)* Denzin attained a speed of 593 mph (955 km/h) in a dive but the engine again cut on landing. By the end of March the airplane had completed 259 flights with a total flying time of 65 hours 21 minutes.

OPERATIONAL USE

Plans were now well in hand for introducing the He 162 to operational service. At first it was proposed to set up a new fighter group, designated I./JG 80, to fly the fighter, but then it was decided to convert an experienced unit, I./JG 1, to the *Spatz*. Therefore, on February 7, 1945, the first *Gruppe* of Fighter *Geschwader* 1 received



orders to relinquish its Fw 190 A-8s and F-3s and transfer from Garz to Parchim. During the next two days the group, now embarked in 65 vehicles, moved via Anklam/Mecklenburg escaping heavy bomber attacks on the way and eventually arriving at Parchim at 2 am on February 9. Three days later the unit began re-equipment with the He 162, with *Maj. (Major)* Richter and a *Fliegerstabsing.* from Rechlin commencing technical training of the ground personnel. This continued until March 31 when the unit received orders to transfer to Leck.

The new General of the Fighters, *Oberst* Gordon Gollob, arrived at Vienna with his Inspector of Fighters, *Oberst* Walther Dahl, on February 12 to fly the airplane. Gollob's comments after landing in the M3 were not particularly encouraging, although he did manage to achieve a speed of 404 mph (650 km/h) during his flight.

On February 27 five pilots from 2./JG 1 under *Oblt.* August Hachtel arrived at Vienna to begin flying training on the *Spatz.* They were given the He 162 M19 but were ordered not to fly over 311 mph (500 km/h), above 9,842 ft (3,000 m) or for longer than 15 minutes. Five days later 3./JG 1 under *Oblt.* Emil Demuth arrived at Vienna to begin training but found that no other aircraft were available for training! On March 7 Hachtel telexed Gollob that eight pilots had received conversion training, but that the ground personnel had not yet arrived.

Crashes still continued to occur, the M8 being destroyed on March 12 when the engine cut at 328 ft (100 m) due to fuel starvation. Although the pilot, *Fw.* Wunke of 2./JG 1 escaped, two days later the M19 was completely destroyed. *Uffz. (Unteroffizier)* Tautz, making his first flight in the He 162, missed the runway on landing and the airplane hit a pile of oil drums, somersaulted and burst into flames.

Finally, on March 31, I./JG 1 received orders to transfer by way of Parchim and Ludwigslust to Leck in Schleswig-Holstein on the Danish border. Shortly afterward II./JG 1, under *Hptm. (Hauptmann)* Paul-Heinrich Dähne, moved to Rostock to re-equip with the He 162 directly from the Heinkel plant. Other units scheduled for possible re-equipment with the *Spatz* included III./JG 1 and I./JG 400.

As Soviet forces neared Vienna, it was decided to evacuate the Heinkel factory, the design office moving to Jenbach near Salzburg in Austria and plans being made for production to begin at Klagenfurt. By this time 58 He 162s had been completed, 20 of these by Junkers at Bernburg. Twenty-five of these machines were to be transferred to I./JG 1, the rest being used for tests and development.

On April 16, 1945, the *Gruppe,* under the temporary command of *Oblt.* Demuth, finally arrived at Leck. It was ordered not to engage in combat, but this did not prevent *Lt.* Rudolf Schmitt from making the first operational ejection from the airplane on April 20. Next day I./JG 1 became fully operational, flying its first ground attack sortie against an Allied airfield. During this action it suffered its only He 162 loss to enemy action when *Uffz.* Reichenberg was shot down.

It is just possible that Reichenburg fell to the guns of a Tempest of No. 3 Squadron RAF. Another claim against a *Volksjäger* was made by the US 10th Photo Reconn Group of the 12th TAC Reconn Squad-

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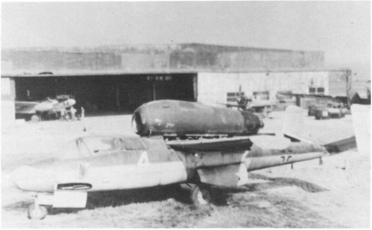
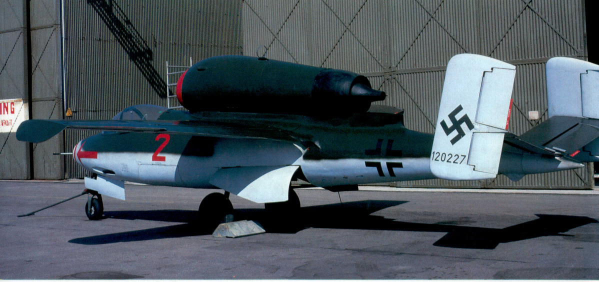
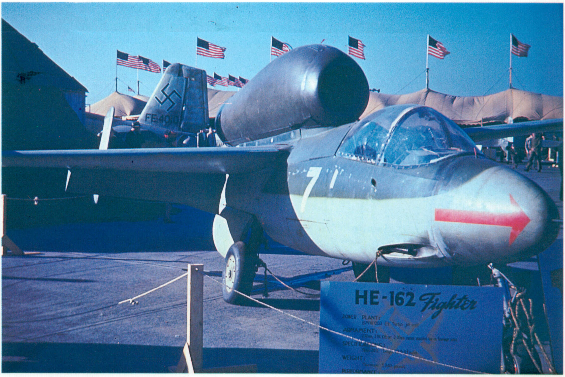
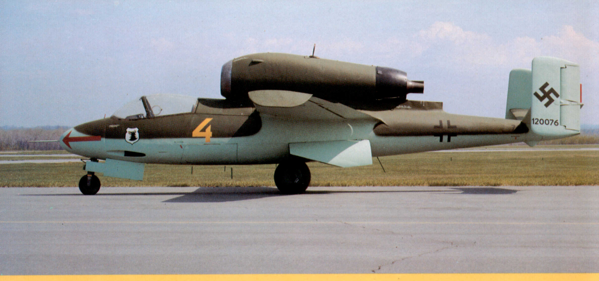


Above and left: *US troops examine He 162 A-2, white 4, of 1./JG 1 after the aircraft had been ferried from Leck to Kassel. It is unclear if this was W.Nr. 120097 as a different tail assembly had been fitted prior to its departure from Leck.*

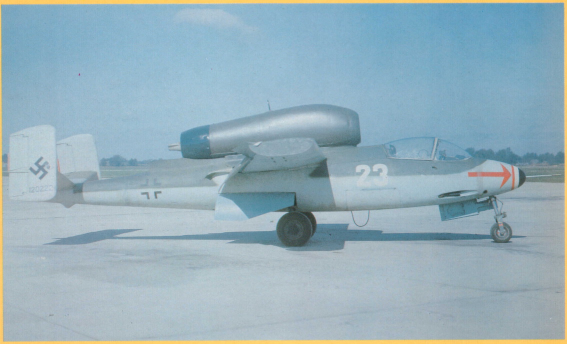


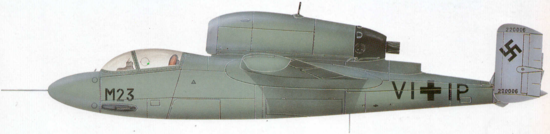
Above: Photographed in the spring of 1984, He 162 A-2, W.Nr. 120227, red 2, has been restored and placed on limited display at RAF St. Athan, South Wales. Some license has been taken with the attractive paintwork since it is doubtful the original scheme included red on the forward cowl or colors of the Reich on the nose (see cover and centerspread). Below: Pictured at Wright Field not long after its arrival in the USA, this photograph depicts He 162 A-2, W.Nr. 120067, yellow 7, in its original markings and camouflage. The oval shaped opening just below the canopy was the exterior orifice for the signal flare. Visibility was excellent in all directions except to the rear.



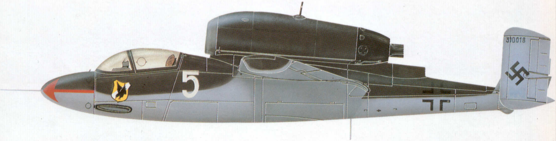


Above: *Photographed in the late 1960s following restoration, this second Canadian He 162 A-2, W.Nr. 120076, yellow 4, is now on display at Rockcliffe, Ontario. Originally an aircraft of 3./JG 1, the unit emblem painted on the forward fuselage is that of III./JG 77. Undoubtedly the pilot wished to remember his former unit in this way since the He 162 was never allocated to JG 77.* Below: *Taken at Wright Field late in 1945 is He 162 A-2, W.Nr. 120230, white 23, believed to have been the aircraft of JG 1's commander, Oberst Herbert Ihlefeld who was a recipient of the Oak Leaves with Swords to the Knight's Cross of the Iron Cross. It is thought the black-white-red nose colors are emblematic of this high award.*

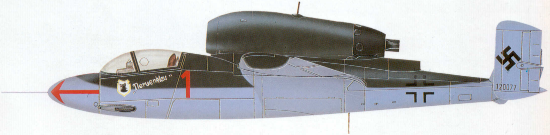




He 162 M23 Test aircraft for new wing root fillets.

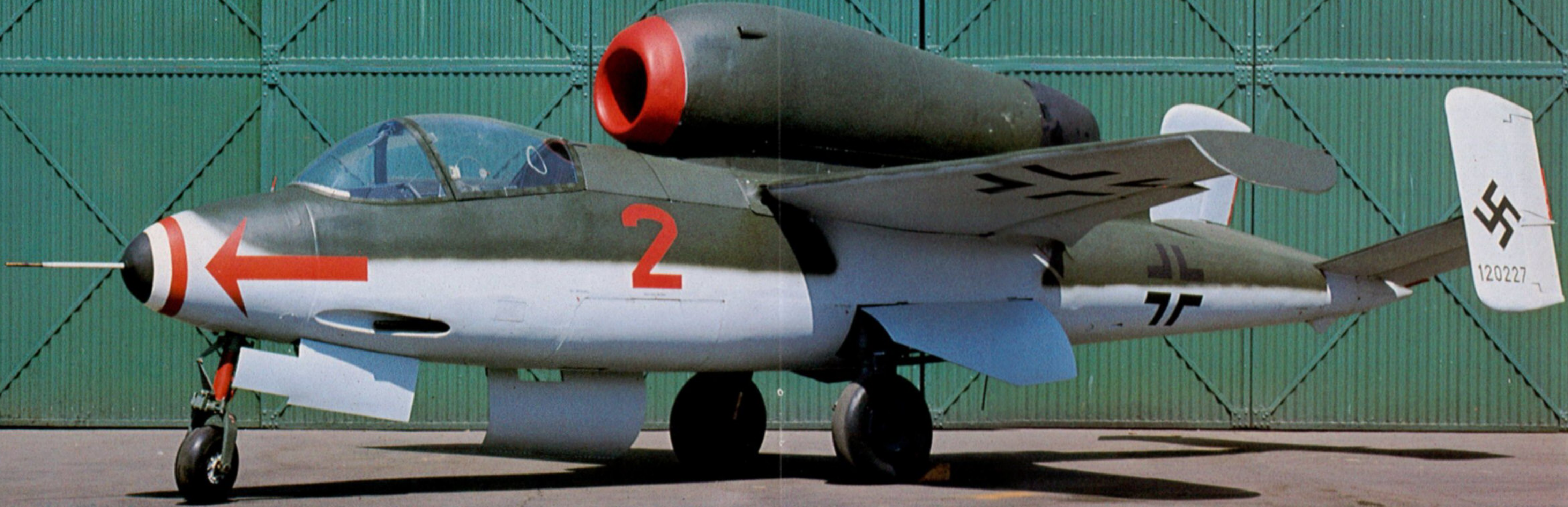


He 162 A-1 Aircraft of Hptm. Helmut Künnecke, Staffelkapitän of 1./JG 1, May 4, 1945.

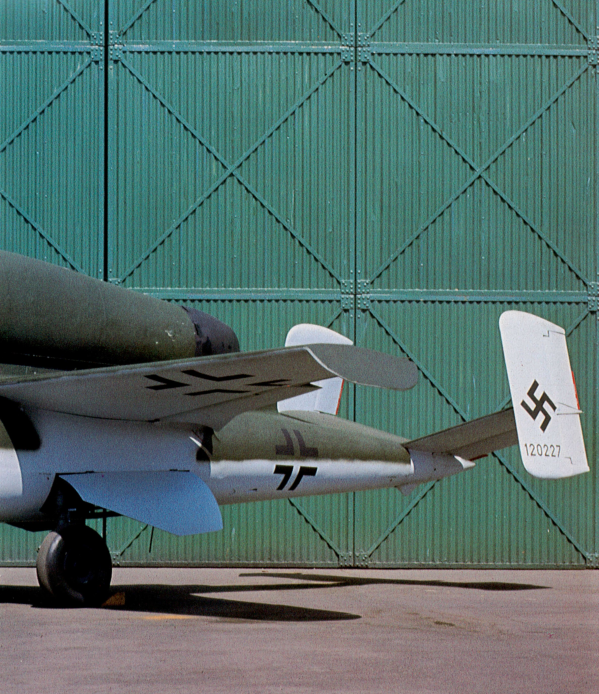


He 162 A-2 Aircraft belonging to an unidentified pilot of 2./JG 1, May 4, 1945.

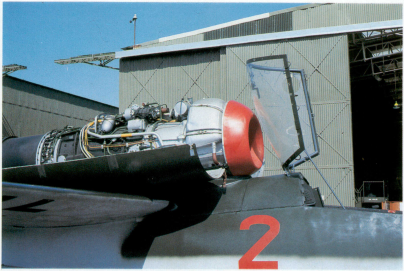
2



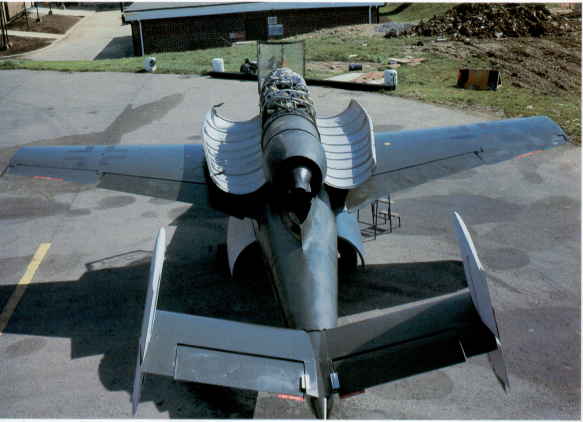
He 162 A-2, W.Nr. 120227, red 2, of 2./JG 1, RAF St. Athan, South Wales, 1979.

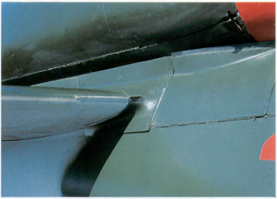


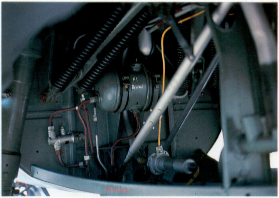
He 162 A-2, W.Nr. 120227, red 2, of 2./JG 1, RAF St. Athan, South Wales, 1979.



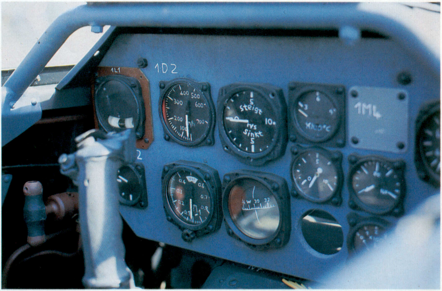
All photographs on this page and opposite depict the He 162 A-2 shown on the cover and centerspread, W.Nr. 120227. Left: *In this view, the cowlings of the BMW 003 E have been opened to reveal the engine and accessories. An interesting feature of the airplane was its backward-hinging canopy which allowed easy access to the cockpit.* Below: *An unusual rear view of the aircraft shows the clamshell engine cowlings fully opened. These were fitted with piano hinges at the base and could be removed easily by withdrawing the central retaining pin.*

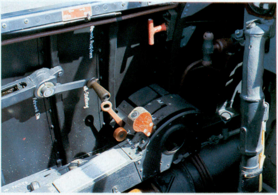


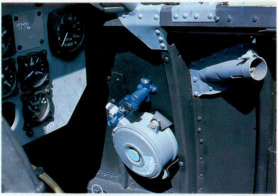


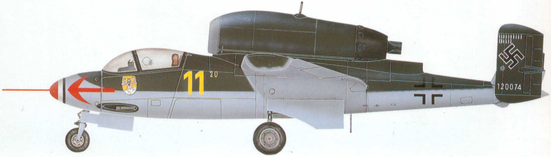


Above: *Close-up of the wing root showing the spoilers fitted to the leading edge which extend outward about three inches (10 in on some aircraft) to aid in better landing characteristics. Besides the piano hinges for the engine cowlings, the FuG 25a IFF radio equipment is clearly visible.* Top right: *This view of the undercarriage bay looking forward shows the double springs against which the mailwheels were compressed on retraction. To lower the gear the pilot simply released the lock and the wheels extended with a loud "twang". The container in the center of the image labelled F1 Drucköl is the hydraulic oil container.* Right: *The simple instrument panel of the He 162 showing, left to right, top row, the artificial horizon, airspeed indicator, variometer, jet pipe temperature gauge, blank, and the engine rev. counter. Below these can be seen the flap indicator, altimeter, compass and various fuel gauges.* Below: *Port side of the cockpit showing, from left to right, the elevator trim control, the gear selector, fuel cock and throttle.* Below right: *Starboard side of the cockpit showing the oxygen supply control (labelled Sauerstoff Dusche) with above and to the right the flare pistol container chute.*









He 162 A-2 Aircraft of Oblt. Emil Demuth, Staffelkapitän of 3./JG 1, May 4, 1945.

ron. Flying F-6s (a reconnaissance version of the P-51 Mustang) over the Third Army area, one of the pilots spotted a small German jet flying below. He banked and dove down on the unsuspecting *Luftwaffe* jet and shot it down with a long burst. The aircraft was later identified as an He 162.

On May 2, II./JG 1, under the command of *Maj.* Zober (replacing Dähne after he had been killed in an He 162 crash on April 24) arrived at Leck. Next day a complete reorganization of the unit took place, *Maj.* Zober taking over I./JG 1 and *Hptm.* Rähe the second *Gruppe.*

It is possible that two victories were claimed by JG 1 with the He 162. Details of the first remain obscure, but the second is alleged to have occurred on May 4, 1945, when *Lt.* Schmitt, flying "white 1" claimed the destruction of an RAF Typhoon near Rostock. But by this time it was too late and, as Messerschmitt and Galland had predicted, the whole *Volksjäger* program had merely served to divert facilities from the more developed Me 262.

When JG 1 received orders to transfer from Parchim to Leck in Schleswig-Holstein on the Danish border on March 31, 1945, its establishment was set at:

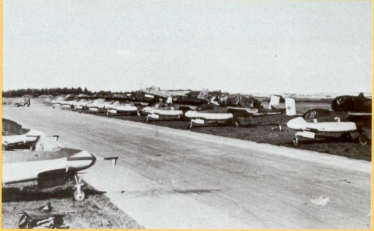
Stabsstaffel	16 aircraft
I. Gruppe	52 aircraft
II. Gruppe	52 aircraft

At this time the unit was led by *Oberst* Herbert Ihlefeld with the first *Gruppe* under the temporary command of *Oblt.* Demuth and the second *Gruppe* under *Maj.* Zober. On May 4, 1945, the units were reorganized with *Oberst* Ihlefeld as *Stabstaffel Kommodore.* The first *Gruppe* was led by *Maj.* Zober, and the second *Gruppe* under the command of *Hptm.* Rähe. *Staffelkapitäns* were: 1. *Hptm.* Künnecke, 2. *Hptm.* Ludewig, 3. *Oblt.* Demuth, 4. *Hptm.* Gallowitsch, 5. *Hptm.* Bergholz and 6. led by *Oblt.* Zipprecht.

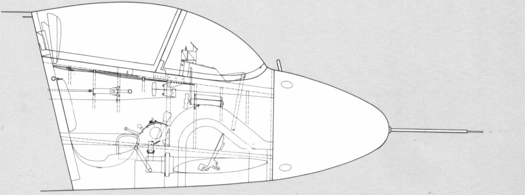
In fact, this arrangement only lasted for four days because, on May 8, Germany finally surrendered. A little later, British troops reached Leck and found JG 1's He 162s arrayed in neat rows on either side of the runway.

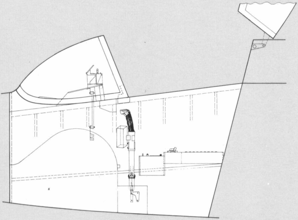
PROJECTS

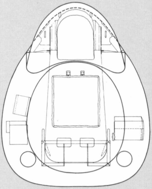
Even when the He 162 was still on the drawing board, plans were being made for more advanced versions of the fighter. These developments can be considered under four headings; those concerning aerodynamic improvements to the airframe, a change of engines, development of a two-seat trainer and additions to the basic armament of two cannon.

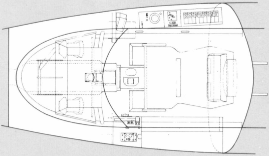


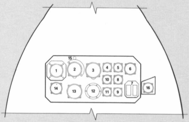
Left: *The fourth Heinkel from the right is "white 21" with colors of the Reich on the nose. Quite possibly this machine was the former aircraft of Hptm. Paul-Heinrich Dähne, Kommandeur of II./JG 1 until his death on April 24, 1945 near Warnemünde. Hptm. Dähne was also holder of the Knight's Cross of the Iron Cross. He may have been flying another He 162 at the time of his death.*





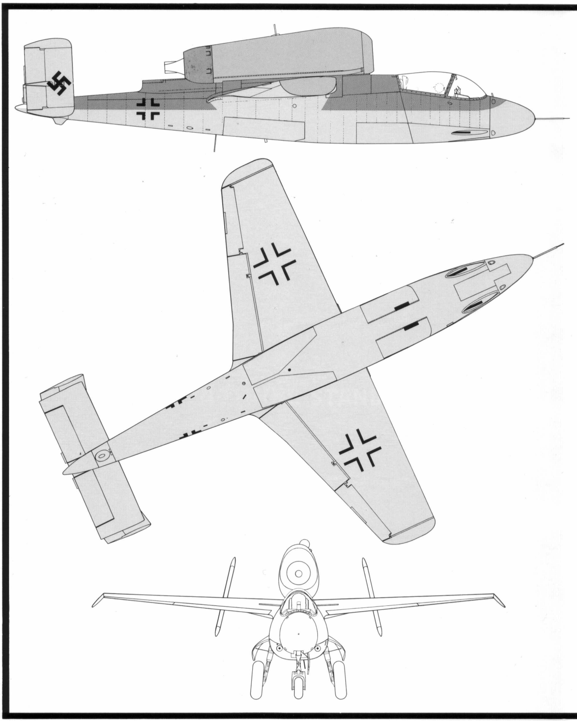


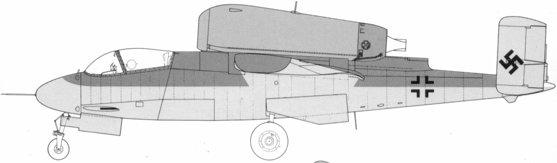




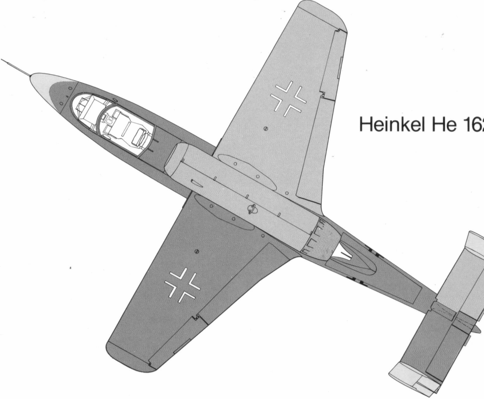
1. Turn and bank indicator
2. Air speed indicator
3. Rate of climb indicator
4. Exhaust temperature indicator
5. Differential pressure indicator
6. RPM indicator
7. Cannon rounds indicator
8. Fuel pressure indicator
9. Fuel supply indicator
10. Lubricant pressure gauge
11. Clock
12. Compass
13. Altimeter
14. Flap Indicator
15. Pitot tube heat indicator
16. Oxygen pressure gauge

HEINKEL He 162 A-2 INSTRUMENT PANEL





Heinkel He 162 A-2



▩	**Color 81** **Brown-Violet**	□	**Color 21** **White**
▨	**Color 82** **Bright Green**	■	**Color 22** **Black**
░	**Color 76** **Light Blue**		

The January 18 and February 28, 1945 factory camouflage directives called for the He 162 to be painted in parts. No effort was made to identify the specified colors by written description. But, based on the latest information, Color 81 was Brown-Violet, 82 was Bright Green and 83 was Dark Green. No undersurface color was specified however; most aircraft received Color 76 Light Blue. Although the directive made no mention of Color 83, it was in fact used on most aircraft either completely or selectively in lieu of Color 82. Additionally, colors were sometimes reversed in their placement. National insignia consisted of a white upper wing cross (B6 style)* measuring 600 mm, a simplified black under wing cross (B6a style) of 950 mm, a fuselage cross (B4 or B3 style) of 450 mm and a 325 mm swastika (H5 or H4 style) positioned on the fins.

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*See THE OFFICIAL MONOGRAM PAINTING GUIDE TO GERMAN AIRCRAFT 1935-1945, Monogram, 1980, page Addendum 2.

Left: *The first Junkers-built He 162 A-1, W.Nr. 300001, shown just after completing its maiden flight on February 25, 1945 at Bernburg. The next day the aircraft was ferried to the Heinkel South at Vienna-Schwechat for examination.* Lower: *The third He 162 A-1 built by Mittelwerke GmbH at Nordhausen, W.Nr. 310003. At least 39 Volksjäger fighters were built between Junkers and Mittelwerke, a few of them finding their way to I./JG 1 at Leck.*

Many of the aerodynamic refinements were based on the original P 1073 project incorporating swept-back and swept-forward wings and a 20 degree vee tail. Two different turbojets were proposed to replace the standard BMW 003, the 2,866 lbs (1,300 kg) thrust HeS 011 A and the 2,315 lbs (1,050 kg) thrust Jumo 004 D. The latter was to be tested by two *Spatz* prototypes, the M11 and M12, but they were destroyed by Allied bombing before they could fly. Two other prototypes, the M14 and M15, were to be fitted with the HeS 011 A.

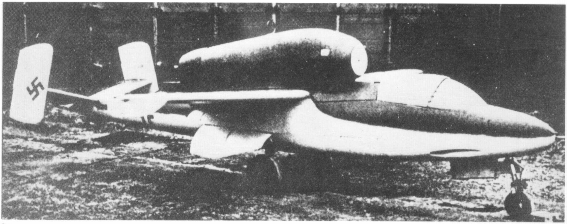
A project was drawn up for mounting a BMW 003 R composite turbojet and rocket engine above the fuselage of the He 162. It was also proposed to use the Argus impulse duct engine to power the airplane. Two versions of the *Volksjäger* were proposed with this type of engine, powered by two 771 lbs (350 kg) thrust Argus As 014s or a single 1,102 lbs (500 kg) thrust As 044. These were to be mounted above the rear fuselage of the He 162, exhausting behind the tail. At best the Argus powered *Spatz* only would have been capable of low level interception duties and was probably abandoned before the end of the war.

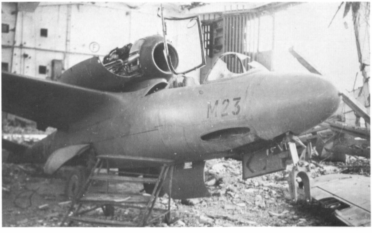
Two training versions of the He 162 were also proposed, one powered, the other a glider, and the airplane also was to be converted as a makeshift reconnaissance machine. This was to have a single Rb 50/30 camera in the rear fuselage.

Additional weapons proposed for the *Volksjäger* included the 55 mm R4M rocket, the SG 118 *Rohrblocktrommel* which comprised three projectors each containing seven 30 mm cannon shells, and the 80 mm *Panzerblitz 1* rocket. It was also intended to replace the standard Revi gunsight by the EZ 42, but production of this advanced gyroscopic sight virtually ceased after the RAF attack on Dresden during the night of February 13/14 destroyed the factory.

CONSTRUCTION

Throughout the design of the He 162 every effort was made to simplify and use materials that were readily available. The semi-monocoque fuselage was built of Duralumin, but with the nosewheel doors and radio compartment of plywood. The cockpit had various standard fittings but with a minimum of instruments. For example, instead of the usual lights or other devices to determine if the gear was fully extended, the pilot was provided with a plastic window beneath the instrument panel to allow him to visually determine the nose gear had extended prior to landing. One radical feature was the installa-





Right: *Close-up of the He 162 M23, W.Nr. 220006, VI+IP, found by US troops at München-Riem at the end of the war. This prototype, built at Hinterbrühl, was fitted with redesigned wing root fillets in an effort to improve low speed characteristics.* Below: *The damaged He 162 M20, W.Nr. 220003, VI+IM, also discovered at München-Riem in Southern Germany. This prototype was used for various rudder tests.*

tion of a cartridge-operated ejection seat, necessary because of the proximity of the pilot to the turbojet intake.

The shoulder-mounted wings were built of plywood, apart from the tips which were constructed of aluminium alloy. Since the wing skin was permanently bonded to the ribs without any access panels, the wing tips could be removed to afford access to the interior. This was a difficult process however, having to be carried out with the aid of special tools and a mirror. The complete wing was attached to the fuselage by four vertical bolts and the turbojet by three other connections.

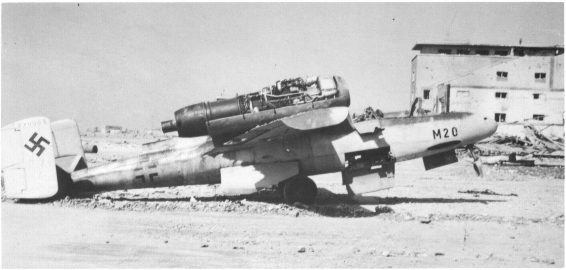
The ailerons and flaps were operated hydraulically via an engine-driven pump. The undercarriage was also retracted hydraulically, being compressed against large coil springs which, when released, lowered the wheels again. For longitudinal trimming the incidence of the entire tailplane could be altered about a hinge at its forward end while, for directional trimming the twin rudders could be offset. These trim changes could be effected in flight but the trim tabs on the ailerons could only be adjusted on the ground.

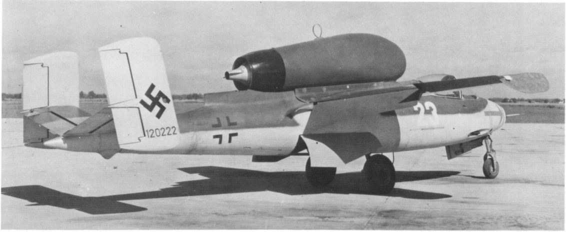
The aircraft was powered by a BMW 003 E turbojet which produced 1,764 lbs (800 kg) thrust for takeoff. The engine was similar to the BMW 003 A which powered the Me 262 A-1b and Ar 234 C-3, but with mounting points below rather than above. In addition to the turbojet, two Ri 502 rocket-assisted takeoff units could be mounted beneath the rear fuselage. Radio equipment comprised the new FuG 24 transmitter/receiver (which replaced the FuG 16 set) and FuG 25 a IFF equipment.

The normal fuel capacity of 168 US gals (635 liters) was carried in a tank positioned behind the cockpit with an additional 91 US gals (345 liters) in the space between the main and auxiliary wing spars. The sealing of the wood in this area was to cause constant problems as has already been related.

ALLIED TESTING AND JAPANESE INTEREST

When British troops reached Leck in May 1945 they were surprised to see a neat row of He 162s parked on either side of





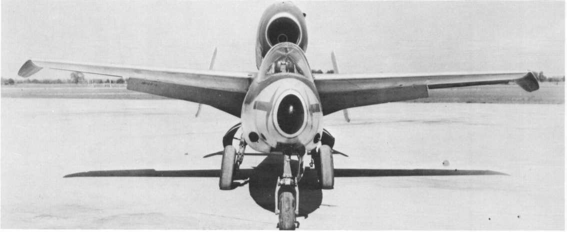
the runway. A total of 31 He 162s were captured intact. Eleven were promptly made ready for shipment to Britain while seven were diverted to the French and four were made available to the Americans.

One of several Allied test pilots to fly the He 162 was Commander William Benson of the Britain's Royal Aircraft Establishment. As he prepared for his first flight, Benson's crew chief, with typical RAF humour, confided "If you are barmy (stupid) enough to want to fly this carpenter's nightmare, sir, I feel I should point out that this 'ere glorified bloody blow torch you are 'anging under is only held on by two ***;*ing bolts!" Undismayed, Benson carried out his first flight in the *Spatz* without mishap.

During the next two weeks he investigated the complete performance envelope of the fighter. He concluded that at low speeds it was extremely tricky to fly, suffering from both longitudinal and lateral instability, probably due to the position of the turbojet. Control movements had to be smooth, with no sudden movements. In level flight, Benson achieved a speed of 562 mph (904 km/h) and an altitude of 41,200 ft (12,558 m)— matching the best performance figures given by German sources. In a dive he attained 585 mph (941 km/h), but found that the airplane had to be very gently eased out, otherwise aileron snatch and severe rudder buffeting would result. On one occasion the aircraft went into a spin from which he only barely recovered.

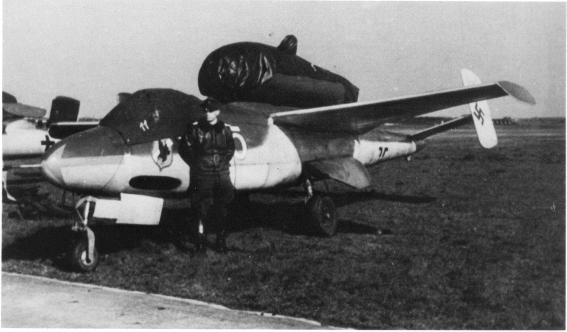
Visibility forward and to the side was excellent, but nonexistent to the rear because of the turbojet. On balance, Benson felt that if the aircraft were treated properly by an experienced pilot, it possessed an excellent performance; although, like other jets of the period, it was

This page: *Two additional views of "white 23" as photographed at Wright Field on October 5, 1945. When assembled in the US, the aircraft received the tail from W.Nr. 120222.* Opposite page: *Two views of the aircraft taken at Leck airfield by British cameramen. This aircraft is on limited display at the Paul E. Garber Restoration Facility at Silver Hill, Maryland.*



120230

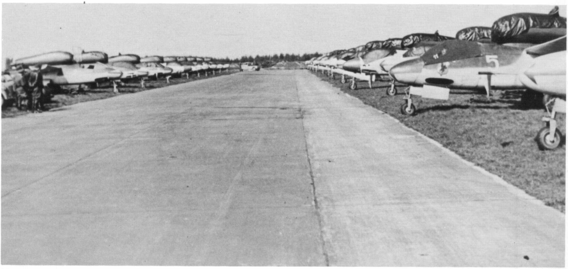
23

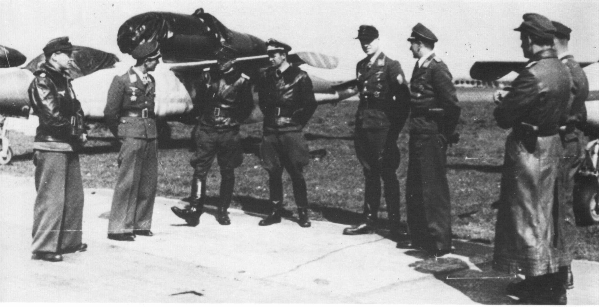


not as maneuverable as its piston-engined contemporaries. "I have little doubt that, if flown correctly, the *Spatz* would have been a very serious problem to the Allies."

Another of the RAE's pilots to fly the airplane was Lt.Cmdr. Eric M. Brown, in charge of the program to return the most advanced German aircraft to Britain. Brown also commented that the forward view was excellent although the non-adjustable seat seemed too low. He felt that the takeoff run was too long but once in the air, the controls were excellent.

Above left: *Hptm. Helmut Künnecke, Staffelkapitän of 1./JG 1, poses in front of his He 162 A-1 at Leck. Judging from the camouflage, this was one of the aircraft produced by Mittelwerke at Nordhausen and is the subject of the color illustration found on page 15 middle.* Below: *At least twenty He 162s lined up on either side of the main runway at Leck as they awaited the arrival of British troops on May 6, 1945. Hptm. Künnecke is seen walking along the familiar runway.*





There was a lack of directional "snaking" which made the He 162 a much better gun platform than most of its contemporaries. However he was, like Benson, unhappy with the oversensitivity of the rudders. When attempting a turn he found that these could not be applied at more than three-quarter deflection otherwise considerable buffeting would result.

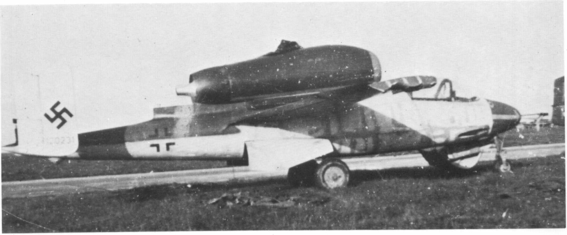
This problem finally led to a disastrous accident on November 9, 1945, during a flying display given at Farnborough by Flt.Lt. Robert A. Marks in the He 162 (W.Nr.120072). Not used to flying the airplane, he attempted to increase the already spectacular rate of roll by using the rudders. This caused the tail assembly to tear away, and out of control, the airplane somersaulted from 800 ft (244 m) into the nearby Aldershot barracks. Marks and an unsuspecting soldier were killed.

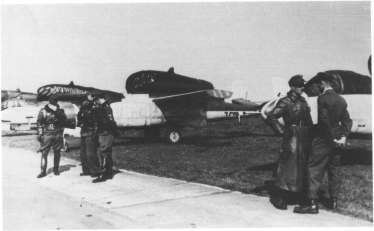
Brown's American contemporary, Colonel Harold E. Watson, was also impressed with the sensitivity of the He 162, finding it extremely easy to fly. This was obviously the case with experienced pilots such as Watson, Brown and Benson, but there is no doubt that it would have proved more than a handful in the hands of a novice, and as for being flown by members of the Hitler Youth...

The French and Russians also extensively tested the He 162, and before the war's end, considerable interest was shown in the machine by the Japanese Naval Air Force. Following OKL approval on April 15, 1945, design and production of the He 162 A was closely studied at Heinkel's Rostock plant by members of the JNAF Air Mission in Germany with a view to licence production in Japan. The critical war situation prevented the delivery of an aircraft or original design data to Japan, but in order to meet an urgent design request, some data was sent by radio. Under the direction of Commander Yoshio Nagamoni, dimensions measured from a datum line were transmitted, but only a portion of these reached Japan before Germany surrendered.

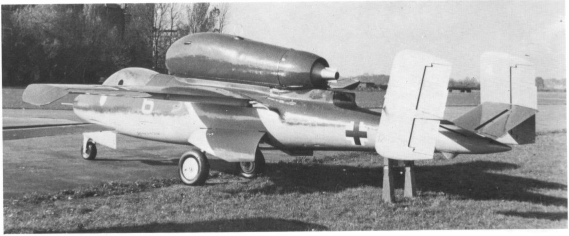
The Japanese He 162 probably would have been powered by the Mitsubishi Ne-130 turbojet then under development.

Above: *Some of the leading pilots of JG 1 await the British amid their Heinkels. From left to right are: Maj. Werner Zorber, Oberst Ihlefeld, Hptm. Helmut Künnecke, Oblt. Demuth, Hptm. Bernd Gallowitsch the new Staffelkapitän of 4./JG 1 (II./JG 1), Hptm. Strasen, Hptm. Ludewig and Hptm. Reinbrecht.* Right: *Another glance down the row of Heinkels. Note the two oil pump carts parked to the rear of the second aircraft.*

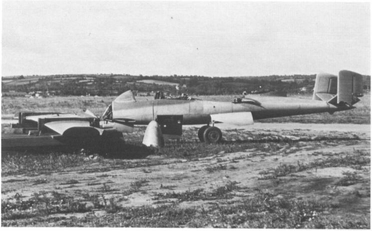




Above: *He 162 A-2, W.Nr. 120231, white 6, of 1./JG 1 has an unpainted forward fuselage. Liberal amounts of body filler (in color 99) were used to smooth the surface.* Left: *White 6 in company with other aircraft and officers at Leck.* Below: *He 162 A-2, W.Nr. 120235, yellow 6, now on display at the Imperial War Museum, London. When first captured, this aircraft's finish was almost identical to that of W.Nr. 120231 shown at the top of this page. The authenticity of "yellow 6" is suspect as W.Nr. 120017 was a genuine "yellow 6."*



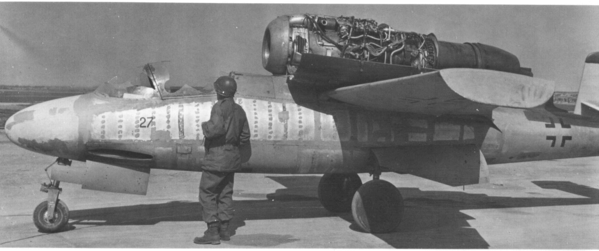
Right: *A disassembled He 162 A-2 awaiting shipment which was never made. The absence of markings and the aircraft's serial number make positive identification impossible. However, on the basis of available clues, it seems likely this Heinkel was built at Hinterbrühl.* Below: *An American soldier ponders an He 162 A-1, W.Nr. 300027, found at the Junkers Bernburg factory near Stassfurt. Damage to cockpit and engine was caused by retreating German personnel. Aircraft of the A-1 series were armed with the 30 mm MK 108 and, unlike the A-2 series with 20 mm MG 151s, the cannon barrels did not protrude to the exterior.*



W.Nr.	Air Min. No.	Luftwaffe	Remarks—RAF aircraft
120221	AM 58	?	Used as a source of spare parts.
120076	AM 59	Yellow 4	RAF serial VH524. Transferred to Canada. Now on exhibit at Rockcliffe, Ont.
120074	AM 60	Yellow 11	Oblt. Demuth's aircraft. Struck off 6 MU Brize Norton 14 Aug 1947.
120072	AM 61	White 3	Crashed at Aldershot killing Flt. Lt. Marks on 9 Nov. 1945.
120086	AM 62	—	Transferred to Canada and now in storage at Rockcliffe, Ontario.
120095	AM 63	?	Fate unknown.
120097	AM 64	White 4	Scrapped at Farnborough in December 1946.
120227	AM 65	Red 2	Preserved at RAF St. Athan, South Wales, UK.
120091	AM 66	—	Disappeared from view after a brief exhibit at the London Science Museum in 1946.
120098	AM 67	—	RAF serial VH513. Scrapped at RAF Farnborough in December 1946.
120235	AM 68	Yellow 6	Now on public display at the Imperial War Museum, London.

W.Nr.	USAAF No.	Luftwaffe	Remarks—American aircraft
120067	?	Yellow 7	Exhibited at Wright Field with rear fuselage from 120222. Fate unknown.
120077	FE-489	Red 1	Later as T-2-489. Now on display at Ed Maloney's Planes of Fame museum, Calif.
120017	FE-494	Yellow 6	Cut up for study and used as a parts aircraft.
120230	FE-504	White 23	Later as T-2-504. Now on limited display at the NASM's Silver Hill facility. Now has tail assembly from 120222. Believed to be Oberst Ihlefeld's aircraft.

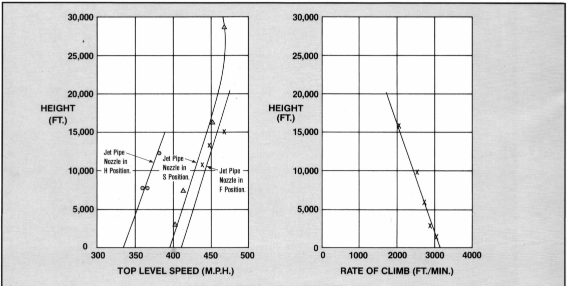
W.Nr.	French No.	Luftwaffe	Remarks—French aircraft
120223	?	Yellow 3	Now on public display at the Musée de l'Air, Paris, France.



HEINKEL 162 WEIGHTS, SPECIFICATIONS AND PERFORMANCE STATISTICS

Type		He 162 A-1	He 162/Jumo 004	He 162/BMW 003R
Role		Fighter	Fighter	Fighter
Seating		1	1	1
Wing span	mm (ft-in)	7200 (23-7½)	7200 (23-7½)	7200 (23-7½)
Wing area	m² (ft²)	11.16 (120.1)	11.16 (120.1)	11.16 (120.1)
Length	mm (ft)	9050[1] (29-8½)	9050[1] (29-8½)	9050[1] (29-8½)
Height	mm (ft)	2600 (8-6¼)	2600 (8-6¼)	2600 (8-6¼)
Tailplane span	mm (ft)	2274 (7-5½)	2274 (7-5½)	2274 (7-5½)
Wheel track	mm (ft)	1,500 (4-11)	1,500 (4-11)	1,500 (4-11)
Engine		1 x BMW 003 E-½	1 x Jumo 004 D-4	1 x BMW 003 R
Takeoff power	kg (lb)	800 (1,764)	1050 (2,315)	2,040 (4,497)
Fuel		B4 (later J2)	J2	J2/SV-stoff + R-stoff
Empty weight	kg (lb)	1,663 (3,666)	1,783 (3,931)	1,788 (3,942)
Loaded weight	kg (lb)	2,805 (6,184)	2,925 (6,448)	3,840 (8,466)
Max speed	km/h (mph)	790 (491)	885 (550)	1,010 (628)
at	m (ft)	0 0	0 0	0 0
Max speed	km/h (mph)	838 (521)	889 (552)	985 (612)
at	m (ft)	6,000 (19,685)	6,000 (19,685)	5,000 (16,404)
Max speed	km/h (mph)	765 (475)	823 (511)	965 (600)
at	m (ft)	11,000 (36,089)	11,000 (36,089)	10,000 (32,808)
Endurance	mins	30 (30)	22 (22)	40 (40)
at	m (ft)	0 0	0 0	0 0
Endurance	mins	48 (48)	38 (38)	1.95 (1.95)
at	m (ft)	6,000 (19,685)	6,000 (19,685)	5,000 (16,404)
Endurance	mins	83 (83)	59 (59)	2.78 (2.78)
at	m (ft)	11,000 (36,089)	11,000 (36,089)	10,000 (32,808)
Range	km (mls)	390 (242)	320 (199)	— —
at	m (ft)	0 0	0 0	— —
Range	km (mls)	620 (385)	530 (329)	— —
at	m (ft)	6,000 (19,685)	6,000 (19,685)	— —
Range	km (mls)	975 (606)	750 (466)	— —
at	m (ft)	11,000 (36,089)	11,000 (36,089)	— —
Climb rate	m/s (ft/s)	19.2 (63.0)	30.3 (99.4)	85.0 (278.9)
at	m (ft)	0 0	0 0	0 0
Climb rate	m/s (ft/s)	9.9 (32.5)	15.7 (51.5)	105 (344.5)
at	m (ft)	6,000 (19,685)	6,000 (19,685)	6,000 (19,685)
Climb rate	m/s (ft/s)	1.6 (5.2)	4.9 (16.1)	98.0 (321.5)
at	m (ft)	11,000 (36,089)	11,000 (36,089)	10,000 (32,808)
Takeoff run	m (ft)	850 (2,789)	760 (2,493)	600 (1,968)
Armament		2 x MK 108 with 50 rpg	2 x MK 108 with 50 rpg	2 x MK 108 with 50 rpg

[1] Add 600 mm (23⅝ in) for pitot tube.



PERFORMANCE OF HEINKEL 162

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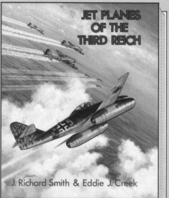
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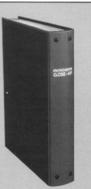

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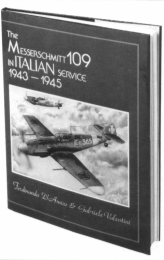
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